

REMARKS

Summary

The drawings, the title, and Claim 3 have been amended to overcome the objections thereto, Claims 4-7 have been canceled without prejudice, thereby rendering moot the objection and rejections of these claims, and amended independent Claim 1 recites at least one feature not disclosed or suggested by the patents to Mizoo, et al., Ishiyama, and Tamura, et al. Therefore, the application is now in allowable form.

Status of the claims

Claims 1 and 3 are pending. Claims 2 and 4-7 have been canceled without prejudice. Claims 1 and 3 have been amended. Claim 1 is independent.

Requested action

Applicants respectfully request the Examiner to reconsider and withdraw the outstanding objections and rejections in view of the foregoing amendments and the following remarks.

Title objection

The Examiner has required a title not including claim language such as “comprising” and “means”. In response, while not conceding the propriety of the objection, Applicants have provided a new title not including these terms.

Drawing objection

The Examiner has required that Figures 8, 14, and 15 be designated by the legend --PRIOR ART--. In response, while not conceding the propriety of the objection, these figures have been so labeled, thereby rendering the objection moot.

Claim objection

Claims 3 and 4 are objected to for minor informalities therein. In response, while not conceding the propriety of the objections, Claim 3 has been amended to address the points raised by the Examiner and Claim 4 has been canceled without prejudice.

Substantive rejections

Claims 1, 3-5, and 7 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1 and 29-33 of the patent to Mizoo, et al. in view of the patent to Ishiyama. Claims 1, 2, 4, and 6 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1 and 29-33 of the patent to Mizoo, et al. in view of the patent to Tamura, et al. Claims 1, 3-5, and 7 are rejected under 35 U.S.C. § 103(a) as being obvious over the patent to Mizoo, et al. in view of the patent to Ishiyama. Claims 1-7 are rejected under 35 U.S.C. § 103(a) as being obvious over the patent to Mizoo, et al. in view of the patent to Tamura, et al.

Response to substantive rejections

In response, while not conceding the propriety of the rejections, independent Claim 1 has been amended and Claims 2 and 4-7 have been canceled without prejudice. Applicants submit that as amended, Claim 1 is allowable for the following reasons.

Independent Claim 1 relates to an image forming apparatus comprising an electrophotographic photosensitive, charging means for applying voltage to a charge member to charge the electrophotographic photosensitive, electrostatic latent image forming means for forming an electrostatic latent image on the charged electrophotographic photosensitive, and developing means for developing the electrostatic latent image. The developing means is provided with at least a developer holding member having a developer holding member surface and configured to hold a developer containing a toner on its developer holding member surface and a developer regulating member configured to regulate a layer thickness of a developer layer on the developer holding member. The electrophotographic photosensitive member and the developer holding member are set opposite to each other to form a developing section. The developer regulating member regulates the developer to form a thin layer of the developer on the developer holding member surface. In the developing section, the toner in the developer is transferred to the electrostatic latent image held on the surface of the electrophotographic photosensitive member to form a toner image. The peripheral speed of the electrophotographic photosensitive member is 150 mm/second or more. The toner has a weight-average particle diameter of from 5 to 12 μm , and of the toner having a circle-equivalent diameter of 3 μm or

more, particles with a circularity a of 0.900 or more, found according to formula (1) are present at a rate of 90% or more in a number-based cumulative value, wherein

circularity $a = L_0/L$ (1), wherein L_0 denotes the circumference of a circle having the same projected area as a particle image, and L denotes the circumference of the particle image, and wherein the toner satisfies the following conditions I) or ii):

I) the relationship between a cut rate Z and a weight-average particle diameter X of the toner satisfies expression (2)

cut rate $Z \leq 5.3 \times X$ (2), wherein the cut rate Z is represented by expression (3)

$Z = (1 - B/A) \times 100$ (3), where A represents a concentration, defined as the number of particles/ μl , of all particles measured with a flow-type particle image analyzer FPIA-1000 manufactured by TOA MEDICAL ELECTRONICS CO., LTD., and B represents a concentration, defined as the number of particles/ μl , of the measured particles the circle-equivalent diameters of which are $3 \mu\text{m}$ or more, wherein the relationship between a number-based cumulative value Y of particles having a circularity of 0.950 or more and a weight-average particle diameter X of the toner satisfies expression (4):

$Y \geq \exp 5.51 \times X^{-0.645}$ (4), where X is in the range from 5.0 to $12.0 \mu\text{m}$; and

ii) the relationship between a cut rate Z and a weight-average particle diameter satisfies expression (5)

cut rate $Z > 5.3 \times \bar{X}$ (5) and the relationship between a number-based cumulative value Y of particles having a circularity of 0.950 or more and a weight-average particle diameter X satisfies expression (6)

$$Y \geq \exp 5.37 \times X^{-0.545} \quad (6), \text{ where } X \text{ is in the range from } 5.0 \text{ to } 12.0 \mu\text{m}.$$

Claim 1 has been amended to recite that the developer holding member is configured to hold a one-component developer. In addition, Claim 1 has been amended to recite that the developer regulating member is configured to regulate a layer thickness of a developer layer of the one-component developer, and regulates the one-component developer to form a thin layer of the one-component developer on the developer holding member surface, and that the toner in the one-component developer is transferred to the electrostatic latent image held on the surface of the electrophotographic photosensitive member to form a toner image. Claim 1 has also been amended to incorporate the features of canceled Claim 2 to recite that the peripheral speed ratio of the developer holding member to the electrophotographic photosensitive member is 1.2 or less at the developing section.

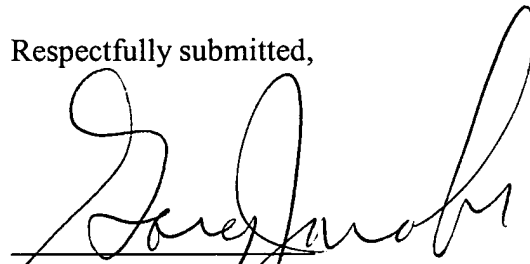
The incorporating of the features of Claim 2 into Claim 1 obviates the rejection of Claim 1 over Claims 1 and 29-33 of the Mizoo, et al. patent in view of the patent to Ishiyama under the judicially created doctrine of obviousness-type double patenting and under 35 U.S.C. § 103, since Claim 2 was not rejected over this combination of patents. In addition, since the filing date of the Mizoo, et al. patent is after the priority date of present application, Applicants will shortly file a sworn translation of priority document to overcome the rejection of the claims over the Mizoo, et al. patent in view of the Tamura, et al. patent under 35 U.S.C. § 103. Therefore, the only rejection that remains to be addressed is the rejection of Claim 1 under the judicially created doctrine of obviousness-type double patenting over Claims 1 and 29-33 of the Mizoo, et al. patent in view of the Tamura, et al. patent.

MPEP § 804, which governs obviousness-type double patenting rejections, states that these rejections are analogous to rejections under 35 U.S.C. § 103 and therefore, “....any analysis employed in an obviousness-type double patenting rejection parallels the guidelines for analysis of a 35 U.S.C. § 103 obviousness determination.” (MPEP Original Eighth Edition, February 2003 Revision, page 800-22) And MPEP § 2142, which governs obviousness rejections under 35 U.S.C. § 103, requires that “....the prior art reference (or references when combined) must teach or suggest all the claim limitations.” ((MPEP Original Eighth Edition, February 2003 Revision, page 2100-124) Accordingly, to reject amended Claim 1 over Claims 1 and 29-33 of the Mizoo, et al. patent and the Tamura, et al. patent under the judicially created doctrine of obviousness-type double patenting, Claims 1 and 29-33 of the Mizoo, et al. patent and the Tamura, et al. patent must disclose or suggest all of the features of amended Claim 1. But neither Claims 1 and 29-33 of the Mizoo, et al. patent, nor the patent to Tamura, et al. is understood to disclose or suggest an image forming apparatus using a one-component developer, as recited by amended Claim 1. For this reason, Applicants submit that amended Claim 1 is allowable over these documents.

In view of the above amendments and remarks, the claims are now in allowable form. Therefore, early passage to issue is respectfully solicited.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



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